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1. (Amended) A multilayer interconnection substrate comprising:

an uppermost interconnection layer having a plurality of terminal pads formed at positions corresponding to a plurality of external connection terminals provided on a semiconductor element which is to be mounted on said multilayer interconnection substrate;

a metal column formed on each of said terminal pads;

a resin film covering a side surface of said metal column; and

an insulting layer fumed on said uppermost interconnection layer so that a gap is formed between the insulating layer and an outer peripheral surface of said resin film, wherein an upper end surface of each metal column is substantially at the same height as an upper surface of the insulating layer.

11. (Amended) A semiconductor torn device comprising:

a multilayer interconnection substrate which comprises an uppermost interconnection layer having a plurality of terminal pads formed at positions corresponding to a plurality of external connection terminals provided on a semiconductor element which is to be mounted on said multilayer interconnection substrate; a metal column formed on each of said terminal pads; a resin film covering a side surface of said metal column; and an insulating layer formed on said uppermost interconnection layer so that a gap is formed between the insulating layer and an outer peripheral surface of said resin film, wherein an upper end surface of each metal column is substantially at the same height as an upper surface of the insulating layer.

13. (Amended) a semiconductor device comprising:

a multilayer interconnection substrate manufactured by forming a plurality of terminal pads in an uppermost interconnection layer; forming an insulating layer on said uppermost interconnection layer; forming openings in said insulating layer, the openings located at positions corresponding to said terminal pads; filling each of said openings with metal particles; forming a metal column in each of said openings by heating said metal particles at a temperature which melts said metal particles; and removing a part of said insulating layer near but not adjacent to a peripheral side of said metal column, while leaving a part of said insulating layer adjacent to said peripheral side of said metal column, so that a gap is formed around but not adjacent to said peripheral side of said metal column, wherein an upper end surface of each metal column is substantially at the same height as an upper surface of the insulating layer.

REMARKS

Reconsideration is respectfully requested.

This Amendment, Claims 1, 11 and 13 have been amended to overcome the reference under 35 U.SC.§102(b).

The Grube et al. reference, Fig. 6A, discloses the metal column (620) and the insulating layer (612) in the vicinity of the metal column (620). The metal column (620) has nothing to relate it with the insulating layer (612). That is, the insulating layer (612) does not surround the metal column (620) for protection and the height of the metal column (620) is not at the same level as the insulating layer (612). The metal column (620) of the Grube et al. reference may be damaged or disengaged from the conductive layer (610) if a side force is applied to the side the metal column.